

Application Serial No.: 09/986,909
Reply to Office Action dated June 15, 2005

IN THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 14. This sheet, which includes Figs. 13D, 13E, and 14, replaces the original sheet including Figs. 13D, 13E, and 14.

Attachment: Replacement Sheet

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 2, and 4-9 are presently active in this case, Claims 1, 2, and 8 having been amended and Claim 3 having been canceled without prejudice or disclaimer by way of the present Amendment.

In the outstanding Official Action, the drawings were objected to for a minor informality. Submitted concurrently herewith is a Replacement Sheet which includes changes to Figure 14 to add the legend "Prior Art." Accordingly, the Applicants request the withdrawal of the objection to the drawings.

In the outstanding Official Action, the title was objected to because of minor informalities. Accordingly, the title has been amended to correspond to the claimed subject matter of the present application. Accordingly, the Applicants request the withdrawal of the objection to the title.

Claims 1, 2, and 4-7 were rejected under 35 U.S.C. 102(e) as being anticipated by Takachi (U.S. Patent App. Pub. No. 2003/0137595). Claims 8 and 9 were rejected under 35 U.S.C. 102(e) as being anticipated by Takagi et al. (U.S. Patent No. 2002/0044215). Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Takachi et al. in view of Tazunoki et al. (U.S. Patent No. 5,191,224). For the reasons discussed below, the Applicants traverse the art rejections.

Claim 1 has been amended to clarify grammar and has been amended to incorporate the subject matter of previously pending Claim 3. Thus, the Applicants submit that the

anticipation rejection of Claim 1 has been rendered moot, and the obviousness rejection of previously pending Claim 3 is addressed below.

The Applicants submit that the Takachi et al. reference and the Tazunoki et al. reference fail to disclose or suggest all of the limitations recited in independent Claim 1, and that there is no motivation to combine the references to arrive at the present invention. Thus, the Applicants submit that these references do not anticipate Claim 1, and these references do not establish a *prima facie* case of obviousness as set forth in MPEP 2143.

Claim 1 of the present application recites an image pickup apparatus comprising, among other features, a first connector arranged on a wiring board, a second connector including an optical lens, a photoelectric conversion module being fixedly held when the photoelectric conversion module is clamped by the first and second connectors in a state where the first and second connectors are in engagement and coupled relatively to each other, and a spring electrode electrically connected to a terminal of the photoelectric conversion module and being electrically connected to the wiring board.

The Takachi et al. reference describes a package (3) accommodating an image sensing device (4) that is integrally combined with an optical component holding member (8a). The Official Action cites an engagement step portion (15) of the Takachi et al. reference for the teaching of the first connector of Claim 1, package (3) for the teaching of the wiring board, engagement claw (16) for the teaching of the second connector, and image sensing device (4) for the teaching of the photoelectric conversion module.

The Applicants submit that the Takachi et al. reference does not disclose or suggest a spring electrode that is electrically connected to a terminal of the image sensing device (4)

(cited for the teaching of the photoelectric conversion module) and being electrically connected wiring of the package (3) (cited for the teaching of the wiring board). The Official Action indicates that an electrode of some sort inherently exists to connect to the image sensing device (4) and wiring (which is not depicted or described in the Takachi et al. reference) of the package (3). (See page 6, item 6, of the Official Action.) The Official Action does, however, acknowledge on page 7 that the Takachi et al. reference does not disclose a spring electrode. The Official Action cites the Tazunoki et al. reference for a teaching of a spring electrode.

The Tazunoki et al. reference describes a packaging technique for a semiconductor integrated circuit employing a large sized semiconductor substrate as a semiconductor wafer. The Tazunoki et al. reference teaches that “since there is no packaging technique applicable for the semiconductor integrated circuit employing the ... entire semiconductor wafer, it is impossible to package the semiconductor integrated circuit on a packaging substrate.” (Column 2, lines 27-31.) Thus, the Tazunoki et al. reference describes a technique for packaging such wafers. The technique involves the use of spring electrodes (115) that are provided on upper and lower supporting members (105A and 105B) for sandwiching the semiconductor substrate (101) and that provided a resiliently contact with electrodes on the substrates. The Tazunoki et al. reference provides a packaging structure that is unique to the type of wafers being mounted and to the pillar (103) mounting arrangement described therein.

The Official Action suggests that it would have been obvious for one of ordinary skill in the art to combine the spring electrode (115) of the Tazunoki et al. reference with the structure of the Takachi reference, “because an artisan of ordinary skill in the art would

recognize that this would allow for a more stable support of a semiconductor device (see Tazunoki et al., Col. 8, lines 21-25) and provide a flexible electrode that is not easily broken.” (See page 7 of the Official Action.) The Applicants respectfully disagree with this conclusion.

Firstly, the Applicants submit that one of ordinary skill in the art would not have concluded that the spring electrodes (115) of the Tazunoki et al. reference would provide a more stable support of the image sensing device (4) of the Takachi reference, than the support of the image sensing device (4) described in the Takachi reference. The Takachi reference describes that the image sensing device is adhesively glued to the bottom portion of the package (3). (Page 3, paragraph [0032].) One of ordinary skill in the art would not conclude that frictionally receiving the image sensing device (4) on the package (3) using the spring electrodes (115) of the Tazunoki et al. reference would provide a more stable support of the image sensing device than physically gluing the image sensing device to the package, as is taught in the Takachi reference. Additionally, since the image sensing device (4) of the Takachi reference is rigidly mounted to the package (3), then the need for a flexible electrode that is not easily broken is unnecessary due to the stationary orientation between the image sensing device (4) and the package (3). The spring electrodes of the Tazunoki et al. reference are advantageous for the unique nature of the packaging technique described therein, and one of ordinary skill in the art would not look to such a packaging technique to solve problems associated with the Takachi reference.

Secondly, the Applicants submit that modifying the Takachi reference to include the spring electrodes of the Tazunoki et al. reference would be contrary to the teachings of the

Takachi reference. The Takachi reference repeatedly indicates that the distance between the surface of the image sensing device (4) and the surface of the seal glass (5) is an important dimension in order to ensure the proper focus of the device. (Page 2, paragraph [0028], and page 3, paragraphs [0031]-[0033].) Thus, the Takachi reference utilizes a rigid mounting of the image sensing device (4) with adhesives in order to ensure that the image sensing device (4) is not able to move with respect to the seal glass. The flexible spring electrodes (115) of the Tazunoki et al. reference would not provide a precise and rigid mounting location for the image sensing device (4), which would adversely affect the focus of the device. Thus, such a modification would not only be contrary to the teachings of the Takachi reference, it would also render the device in the Takachi reference unsatisfactory for its intended purpose. (See MPEP 2143.01.)

The Applicants respectfully submit that the rejection is based on the improper application of hindsight considerations. It is well settled that it is impermissible simply to engage in hindsight reconstruction of the claimed invention, using Applicants' structure as a template and selecting elements from the references to fill in the gaps. *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991). Recognizing, after the fact, that a modification of the prior art would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner*, 397 F.2d 1011, 154 USPQ 173 (CCPA 1967).

Accordingly, the Applicants respectfully request the withdrawal of the art rejection of Claim 1.

Claims 2, 4-7, and 9 are considered allowable for the reasons advanced for Claim 1 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of Claim 1.

Claim 8 has been amended to clarify grammar and has been amended to incorporate much of the subject matter of previously pending Claim 3.

In the Office Action, the Takagi et al. reference is indicated as anticipating Claim 8. However, the Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As will be demonstrated below, the Takagi et al. reference clearly does not meet each and every limitation of amended independent Claim 8.

Claim 8 of the present application recites a method for manufacturing an image pickup apparatus comprising an installation step of arranging a first connector and an electronic component on a wiring board and electrically connecting the first connector and the electronic component together, and an assembly step performed when the first connector and the second connector are brought into engagement. The assembly step includes inserting a photoelectric conversion module between the first connector and the second connector, and electrically connecting a spring electrode located at a position where the first connector is in contact with the photoelectric conversion module to a terminal of the photoelectric

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conversion module.

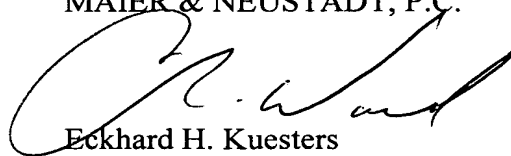
The Takagi et al. reference does not disclose the spring electrode recited in Claim 8 of the present application. For at least this reason, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 8. Accordingly, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 8.

Furthermore, the Applicants submit that the Takagi et al. reference should not be combined with the spring electrode of the Tazunoki et al. reference for reasons similar to those discussed above with respect to Claim 1.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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